

CUP AND SAUCER LAND



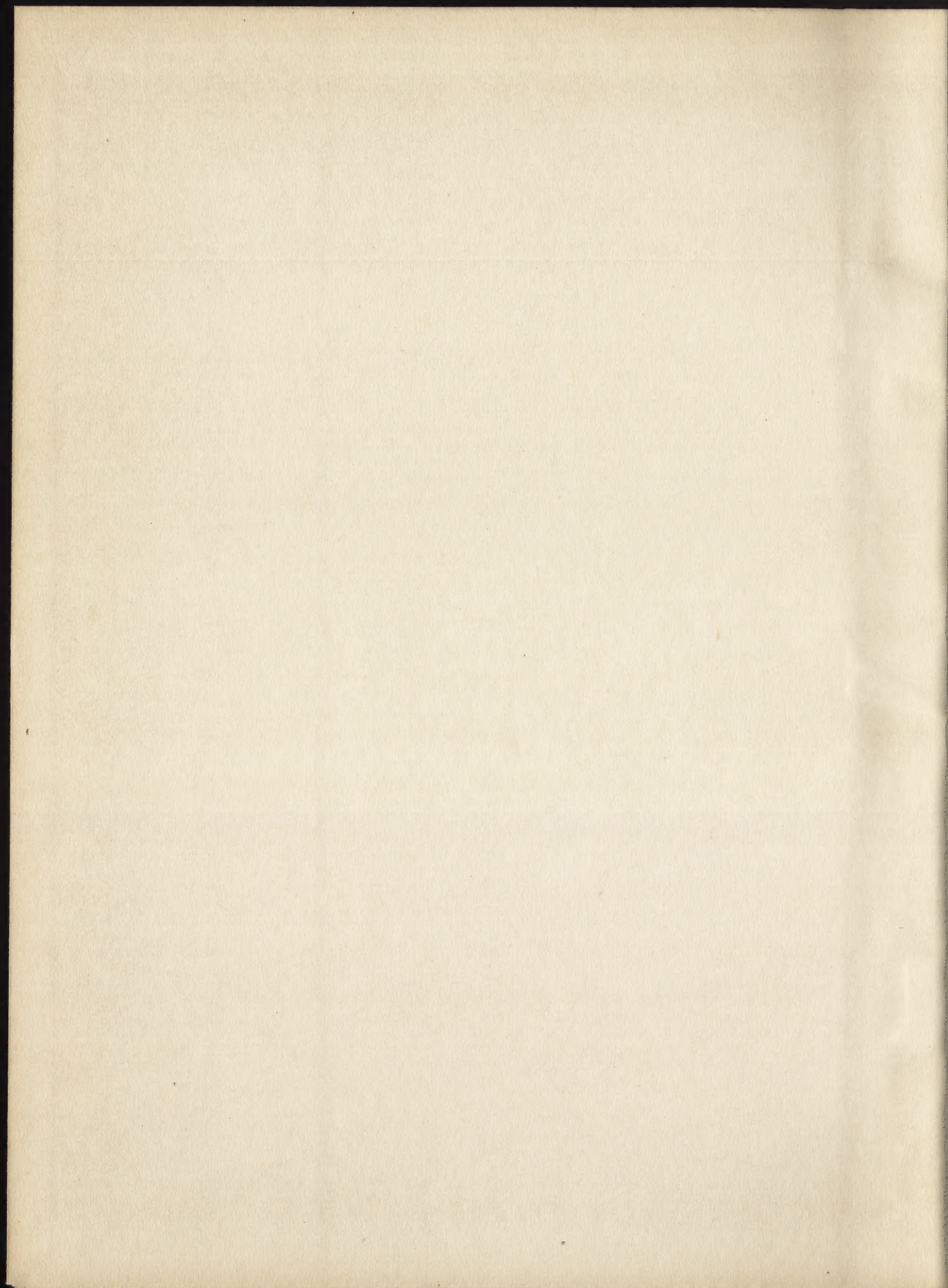
REV. MALCOLM GRAHAM

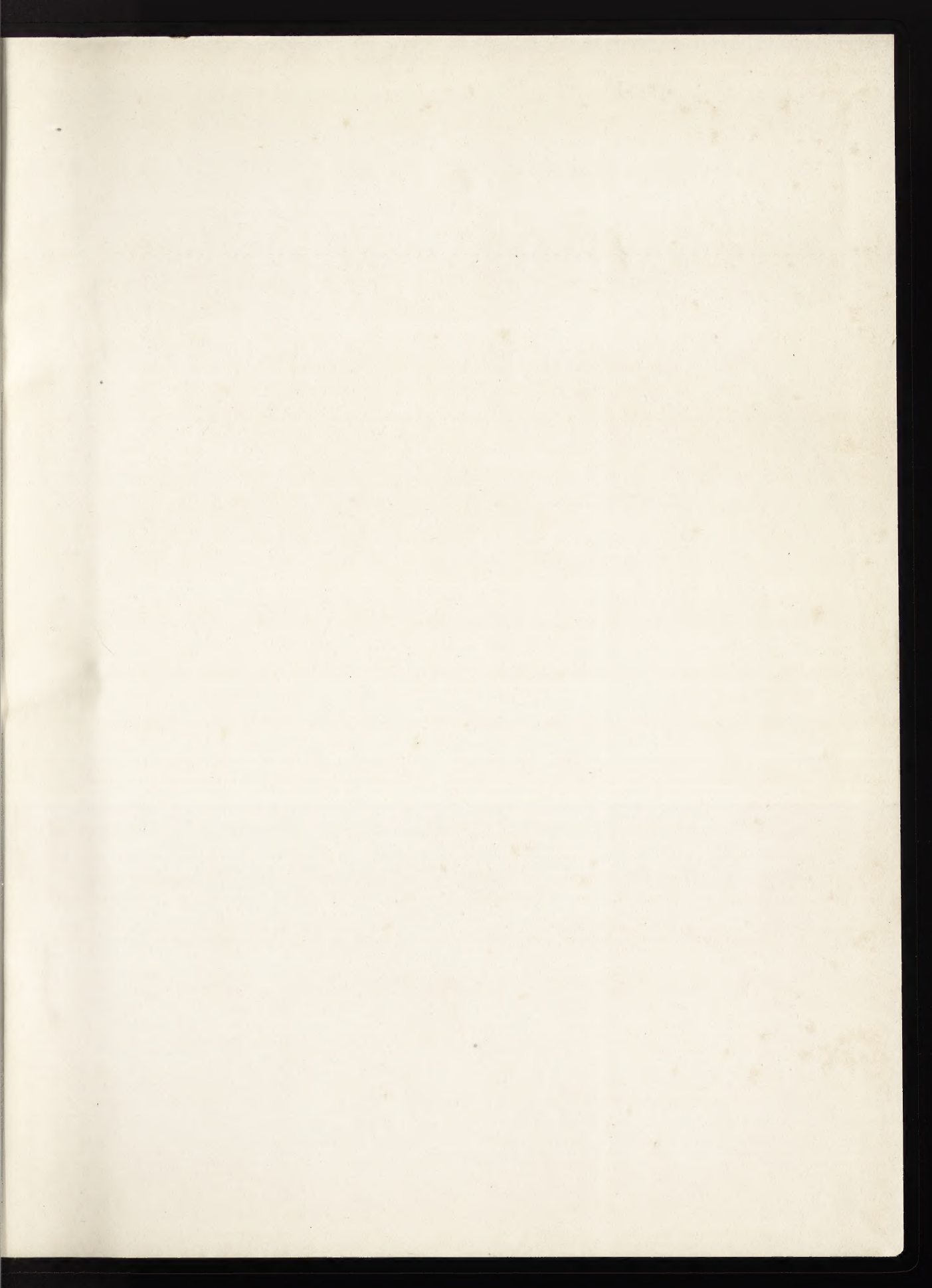
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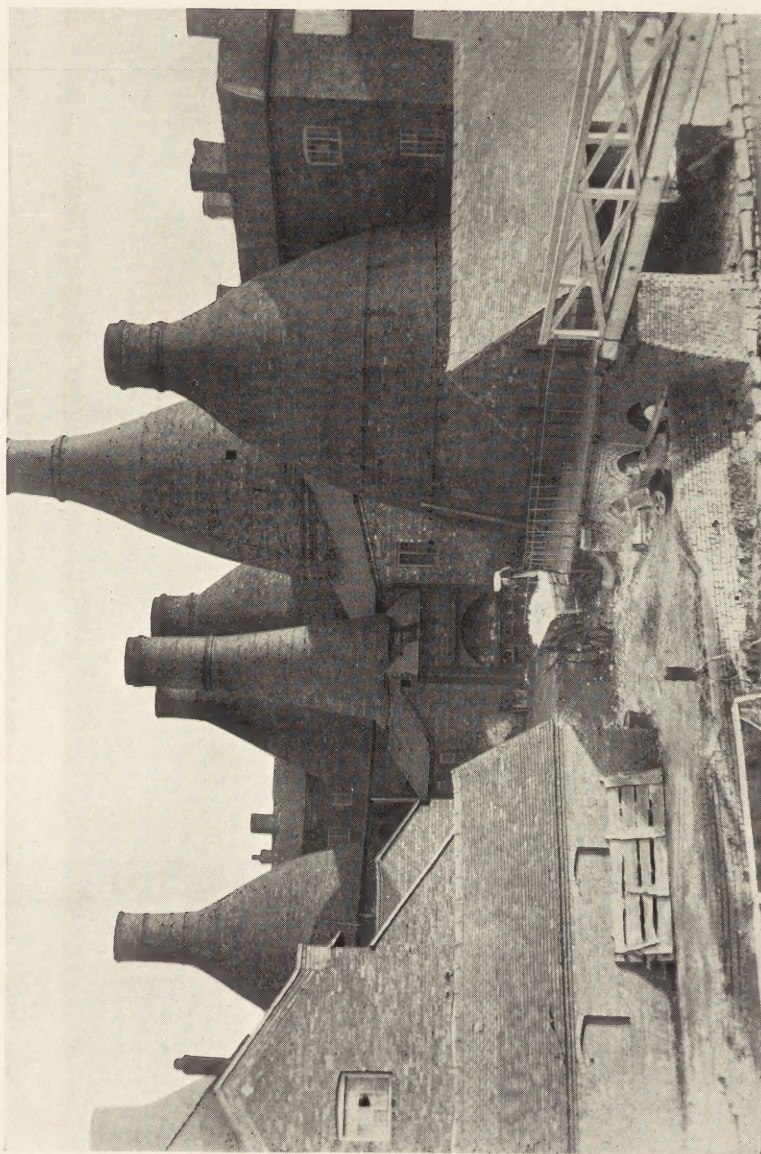


Why ask for the moon
When we have the stars?

AS







A POT-BANK.

[Frontispiece.]

CUP AND SAUCER LAND

Being a simple descriptive account of
the present day methods of Earthen-
ware productions, with 60 illustrations
from photographs taken by the Author
when Vicar of a "Pottery" Parish in
North Staffordshire.

By the
Rev. M. GRAHAM, M.A.
Sometime Vicar of
St. Paul's, Burslem.

*And I remember stopping by the way
To watch a potter thumping his wet clay;
And with its all-obliterated tongue
It murmured, "Gently, BROTHER, gently, pray."*

OMAR KHAYYAM, BORN 1018.



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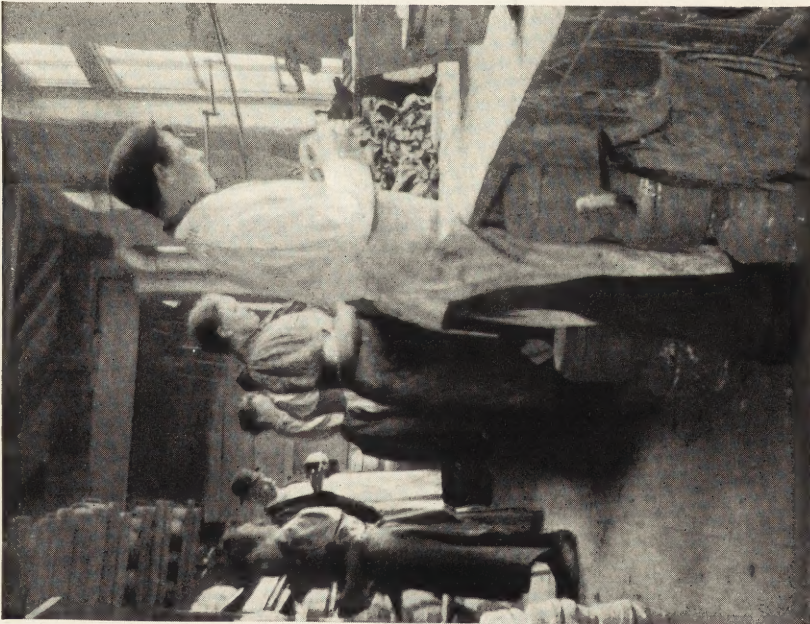
DEDICATION:

This simple effort to create a wider interest in Cup and Saucer Land and those who dwell there, I dedicate to my old friends the Potters of North Staffordshire.

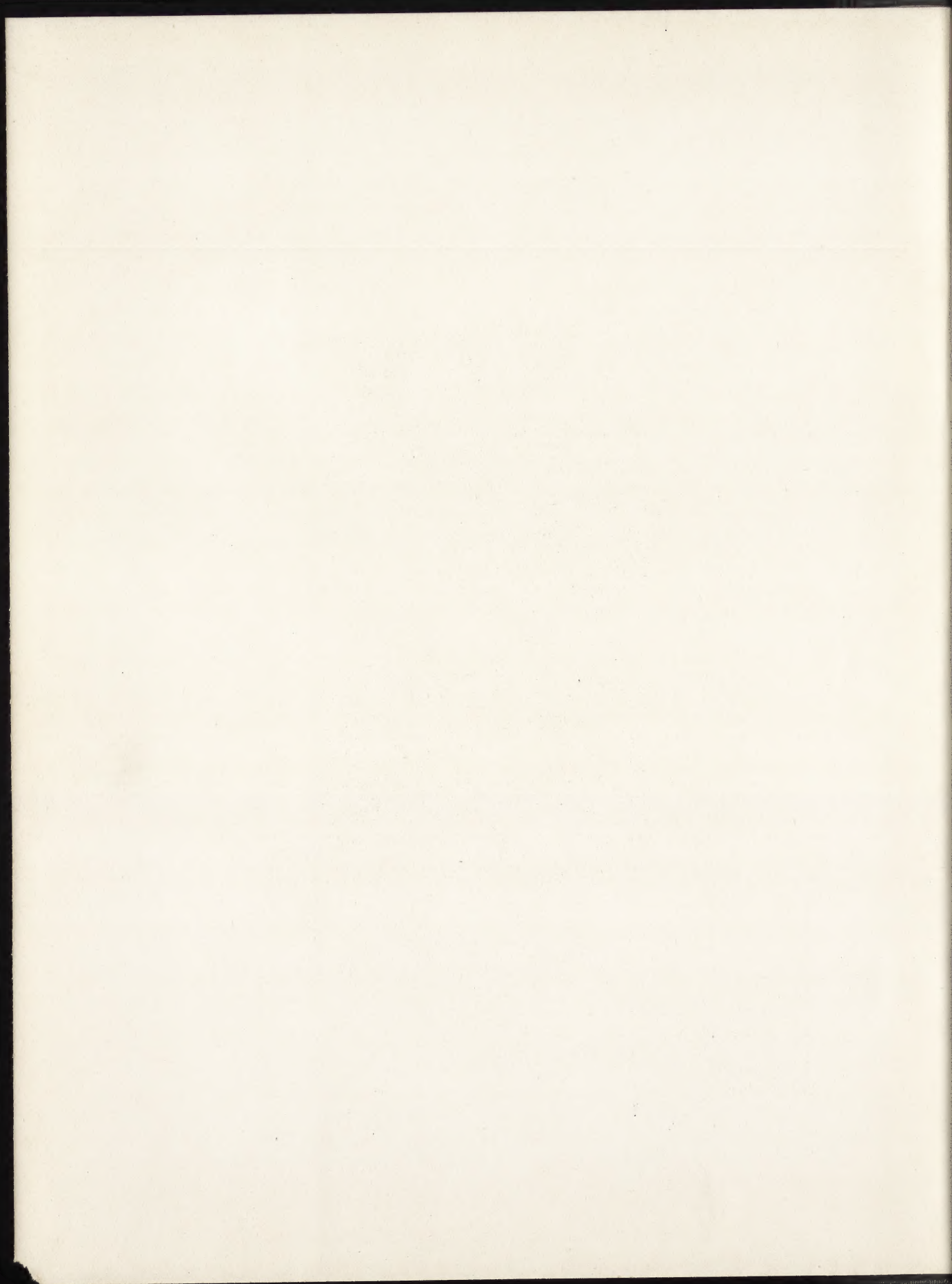
M.G.



SCENE ON POTBANK.



A POTTER'S SHOP.





SOME WOMEN WORKERS.



Author's Preface.

I MUST apologise to my readers, if I have any, for presuming to deal with a subject so complicated, so intricate, and so varied as that of Earthenware manufacture. I should be guilty, indeed, of unpardonable impertinence if I claimed to be an authority on a subject which can only be fully grasped by those who spend their lives in the study of it. I make no such claim. I only profess to tell to those who know nothing about it the story of Earthenware production, as I learnt it in the course of 19 happy years spent in the centre of the Staffordshire Potteries. It may be that this book will fall into the hands of some of my old Pottery friends, if so, I trust they will take it as a message from myself of lasting friendship, and of an interest in them and in their work which neither time nor distance can destroy. I trust also that they will take it as a recognition of their kindly help, so ungrudgingly given, which made it possible for me to acquire such knowledge as I have of that wonderful industry, hoary in its antiquity and deeply interesting in its development, which is carried to such a pitch of perfection in the "Pot Banks" of Cup and Saucer Land.

MALCOLM GRAHAM.

Introduction.

EARTHENWARE production is at once the simplest and most complex of arts. The simplest, for all that is needed to produce finished elementary examples of Earthenware is an ounce or two of clay, a few drops of rain, and a pinch of salt. The most complex, because the commonest cup and saucer must pass through 25 or 30 processes before it is fit for use in daily life.

It is the object of this book, which claims no authority save that of observation and experience, to set forth as clearly as possible the ordinary present day methods used in the manufacture of those Earthenware articles which are in daily household use.

We are surrounded on all sides by Earthenware in every shape and form. What do we know of the secrets which our cups and saucers, dishes and plates, basins and teapots, could unfold, if only they could speak, of the wonderful ways in which they came into existence, where they were made, and how; through what phases of life they have passed, and to what hands they owe their present usefulness or beauty, or both. And to go a little further. Is there no interest attaching to the question of the conception and evolution of the pottery industry in our own country?

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Though the great object of this humble effort is to explain in the simplest way the mysteries of Earthenware manufacture, it will be well before we go further just to glance at some of the facts connected with the development of the pottery industry in our own country.

We were certainly behind other Continental countries in developing the art of Potting. Italy, France and Germany were well ahead of us. We can scarcely claim a place in the Potting industry of the world before the 17th century. In this country it seems clear that London led the way. In the 18th century, however, the Potteries of North Staffordshire put London altogether in the shade.

The simplest form of Earthenware manufacture, when the industry was in its infancy, is represented by the Travelling Potter, who, making his way through the country with his Potter's wheel and simple accessories, would settle for a time in any district where there happened to be a bed of clay, and would work until the clay was exhausted, or, more likely, until he had supplied the needs of the people in the immediate neighbourhood, when he would move on to another place and repeat the same process.

We find about the middle of the 18th century a great advance in the art of Potting in the Staffordshire Potteries. The foreign trade was growing and the necessity was felt of making improvements in methods and manufacture. Josiah Wedgwood—who

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must always remain the central figure in any account of the potting industry—was the leader of the movement. He was a sound man of business and a most skilful potter. In those days the Staffordshire Potteries were much isolated, being separated from other great centres of industry by want of means of communication. The roads, such as they were, being often almost impassable. It was this that led to the formation of the Trent and Mersey Canal, a scheme into which Josiah Wedgwood, with his long-headed sagacity, entered heart and soul. The district railway was not made until 1855.

During the past 75 or 80 years the changes in the Potting industry have been enormous. The greatest change consisted in the introduction of machinery. The effects of the introduction of machinery have been an enormous increase in the production with consequent reduction in prices, combined with the necessary sub-division of labour. It still, however, remains true that machinery in the production of Earthenware is the worker's assistant rather than, as is the case in so many other industries, the workman being the assistant to the machine.

In his history and description of Earthenware and Stoneware, Mr. W. Burton states that the whole subsequent story of the manufacture of pottery in Europe and America was changed by the labours of the Staffordshire potters of the 18th century; and in that masterly and exhaustive history, he proves

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beyond dispute the truth of his statement ; and we ought to be proud of the influence of our potters on the world.

There are three distinct kinds of ware made by the potter, only one of which, technically known as Earthenware, will be dealt with in the following pages. "Earthenware in its widest sense (says Mr. Burton) might be used to cover all variety of pottery. In this sense a brick, a drain pipe and a Chinese vase might be equally described as Earthenware. They are, however, so far apart in their technique and final results that the names, Earthenware and Stoneware and Porcelain, are very conveniently used to differentiate between them."

Mr. Burton's definition of Earthenware is as follows : "All articles made from simple natural clay, or clay mixed with other mineral substances, which, when sufficiently fired for practical use, still remain porous and therefore need a coat of glaze if they are to be used for culinary, domestic, or decorative purposes : " the glaze being the corrective of the porous nature, rendering the ware impervious. The term Earthenware, however, includes a very large class of ware. "There is, indeed, (says Mr. Burton) every gradation of Earthenware, from the common crock, made of any local brick clay, glazed by dusting it with powdered lead ore, and finished in one firing, to the fine white Earthenware of English manufacture made from a mixture of light-burning clays, rendered still

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whiter by the addition of flint and harder by the addition of China stone, and eventually rendered impervious and smooth by means of a complex glaze, containing Flint, China clay, Soda, Boracic acid and Oxide of lead."

The evolution of the potting industry is a deeply interesting study, but can scarcely be touched on in an account of Earthenware production so elementary as this. The idea of forming clay vessels and baking them in the sun must have occurred to the simplest minds in the early years of the human race.

The origin of pottery is lost in obscurity. We know, however, that more than 2,000 years before Jeremiah (B.C. 600) received the message from God: "Go down to the house of the potter and I will cause thee to hear my words," the potter was exercising his trade. Hieroglyphics are in existence which refer to the potter from 2,000 to 3,000 years before the Christian Era.

The Potters' art seems to have had its rise in the land of Egypt. The Egyptians made Earthenware vessels of a red colour for holding perfumes, incense, honey and wine, etc. They also made a finer glazed pottery, enamelled with green, white, blue and purple glazes. The blue was especially lustrous, but its secret lies buried with its mummy inventors. It is said that the tub of Diogenes was made of coarse red Earthenware, but this scarcely admits of proof.

In our own country (Mr. Shaw tells us) the simple

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manufactories of early times were situated at the junction of public roads on account of the publicity and space. These early manufactories were known as **Sun-kiln Potteries**. These potteries certainly existed in the end of the 16th and beginning of the 17th centuries, but how long before we do not know. "Some of these old Sun-kilns (says Mr. Shaw) are still to be seen in the pottery district of North Staffordshire, and some are actually in operation" (1829).

Sun power was also used to separate the water from the clay by evaporation.

In those old days (the same writer tells us) one potter would do all kinds of work. The various processes were not specialised then as they are now. A good workman could throw, turn, and stouk (*i.e.*, handle), and the same man would work at several manufactories. We are told on the same authority that all the persons employed in the pottery manufactories up to 1740 were the Slip-maker, Fireman, Warehouseman, and a few children. The common clay of the district was used in early days. The Devonshire and Dorset clay was not introduced into the Staffordshire Potteries until 1750.

In the British Museum may be seen examples of ancient British pottery, made before the Romans entered the country. It is Mr. Church's opinion that these specimens and their fellows were used entirely in connection with the old burying customs of our ancestors, being only found in their burying places.

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They do not seem to have been used for ordinary household purposes. They were entirely hand-made. The Romans introduced a more advanced style of Earthenware work into Britain, but it does not seem to have survived the shock of the Saxon invasion. When our Saxon forefathers invaded the land they brought over their own methods and workmen. Their ware was well made and turned on the wheel.

Very early in the making of Earthenware the idea occurred to the makers to give variety to their work by a kind of rough decoration obtained by using a different coloured clay on the ordinary body. This clay was dropped or run on in a fluid state and is therefore known as "Slip" decoration.

Earthenware was occasionally put to a strange use—the making of headstones, examples of which may be seen in the churchyards of the Parish Churches of Burslem and Wolstanton, dated 1718 and 1767. They seem to have been made as recently as 1828.

Having now to some extent cleared the way, it is time we passed on to the special subject we have in hand, the telling of the story of the birth and growth of our Earthenware utensils as it is unfolded in the celebrated manufactories situated in "Cup and Saucer Land"; but a word first with regard to those who make them.

It has been the fashion of late years to speak hardly of the Potters of North Staffordshire. Honest attempts to combat evils common to all large centres



SCENE IN THE COURT OF A POT-BANK.



SCENE ON A POT-BANK.





READY FOR THE PHOTOGRAPHER.



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of industry have been misinterpreted as implying that the scale of morality in the Pottery district is far below that of other manufacturing centres. As one who has known the district intimately for 25 years, I have no hesitation in contradicting, without any reserve, such a misrepresentation of facts, and I distinctly assert that taking into consideration the conditions under which the work in the manufactories of North Staffordshire is carried out, that the morality of the district will compare most favourably either with other centres of labour or with the country districts.

It may take some time to gain the potter's confidence, but once one has established a friendship with the men and women who work on the Pot Banks, he will find them true as steel: and anyone who has worked long enough among them to gain their confidence will bear witness to the truth of my statement.

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THERE seems to be a wide-spread notion among the more simple thinkers on the subject of Earthenware manufacture that some wonderful machine exists into one end of which is put the raw material, which at the other end comes out in the shape of cups, saucers, and plates, or whatever other article is required. Such persons little know the number of hands and processes each piece of Earthenware has to pass through before it is ready to leave the manufactory and take its proper place in the world outside. If any such idea, in its most unsubstantial and visionary form, has found its way into the mind of any into whose hands this book may fall—it is sincerely to be hoped, that if such a reader is able to wade through its pages, he may be led to see that Earthenware manufacture is not the simple thing he has imagined.

The whole system of Earthenware production may be divided into seven great divisions :

1. The Preparation of the clay.
2. The Shaping of the plastic clay by the potter.
3. The Baking of the same in the biscuit oven.
4. The Coating of the ware with fluid glaze.
5. A second Baking in the glost oven for fusing the glaze.
6. The Decoration of the ware.
7. A third Baking for the fixing of the colours.

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Before speaking of these various processes it will be well to say a word or two in regard to the **Mill**, where the **Flint** and **Stone** used in the clay body are ground. The **Flint** is used to give whiteness and the **Stone** to give hardness. The former comes from the North Coast of France, or the South Coast of England. The **Stone** mostly comes from Cornwall.

Both **Flint** and **Stone** are ground very fine in the mill, the flint being first calcined, to soften for grinding. The **Pans** in which the materials are ground are circular. They are divided into three or four sections. The pavement of the mill is made of special hard stone. Very large and heavy grinding stones, mostly of Derbyshire chert, are pushed round by means of arms attached to a revolving upright shaft, grinding the materials (to which water is added) to a fine consistency; the materials thus treated are then run into **Arks**, for settling purposes, and the surplus water removed.

Division I.

1. Preparation of the Clay.

THE room in which the clay is prepared for use by the Potter is the nursery of the Pot-Bank (as the manufactories are called), and like most nurseries it is the most noisy and at the same time the most important room of all. It is the Incubator, where all the Earthenware utensils begin life. It is known as the **Slip-house**.

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It contains six most important machines, or quasi-machines:—

1. The Blungers.
2. The Arks.
3. The Lawn Sieves.
4. The Magnets.
5. The Press.
6. The Pug.

1. There will be at least three **Blungers**—great iron churns standing side by side and raised up above the floor, like sentinels on guard. In these Blungers the material for the clay body is mixed with water by means of wings attached to a revolving shaft running through the centre of the Blunger. Of these three Blungers, one contains Ball clay, a Plastic clay from Devonshire or Dorsetshire. The second will contain China clay, from Cornwall, to give whiteness. The third, ground Cornish stone and flint, to give hardness. Each Blunger has its own Ark—a well in the floor connected by a pipe with the Blunger, through which the contents of the Blunger is passed into the Ark. Connected with these three Arks is another, known as the **Mixing Ark**; into this Ark are run some of the contents of each of the other Arks, the proportion of each being regulated by the kind of body needed for the ware, which differs considerably in each manufactory.

2. From the **Mixing Ark** the fluid clay known as **Slip** is pumped up and passed through a number of **Lawn Sieves**, which quiver and shake as if just recover-



THE MILL.



THE BLUNGERS.



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ing from a severe attack of influenza. This process purifies the slip, as these sieves are of the finest possible texture.

3. From the Sieves the Slip makes its way into a short trough placed near at hand, armed with a number of **Magnets**. The Slip in passing through these magnets is freed from the tiny specks of iron, which, if left, would spoil the appearance of the ware.

4. And now the time has come to separate the water from the clay—this is done in the **Press**. The **Press** consists of a number of chambers—long shallow boxes standing side by side and screwed tightly together. Each of these chambers has a kind of nozzle standing up in the centre, as if in constant expectation of receiving some communication from a pipe and taps suspended immediately above them. The water is separated from the clay by pressure. The nozzles mentioned above are joined to the taps and pipe, and through this connection the fluid slip is pumped up into the press, the pressure being about 90-lbs. to the square inch.

The pumping continues until the press can hold no more, and the water is forced out until it scarcely drips. The press is then said to be "**up**," and the man in charge "**takes off**," that is, stops the pump.

Now the press is ready to be opened. The chambers of the press, which are grooved to let out the water, are unscrewed and taken down, one by one, turned on their sides and emptied. When opened, the clay is seen

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encased in a calico sheet, its appearance being that of a thin clay mattress about an inch deep.

5. This clay mattress is rolled up and taken away to a machine known as the **Pug**. It is then thrown into the mouth of the Pug—a cavity which suggests a gigantic and insatiable maw, as it swallows, without hesitation, the continual succession of clay rolls which are being constantly precipitated into it. Within that mouth-like aperture lie concealed a number of knives on a revolving shaft, like giant teeth, which cut and hack the clay into innumerable particles as if for the purpose of securing exemption from a possible attack of indigestion. This “pugging” process, like the older form of **Wedging** is practised for the purpose of getting rid of the air, which, if left in the clay, would appear in the form of blisters and damage the ware.

At the other end of this strange machine is a four-sided tube, down which the clay is forced at the rate of about 375 feet per hour, coming out at the end like a gigantic sausage.

The workers—usually girls and boys—who are engaged to convey the clay to the potter, stand ready in turn, with a thin brass wire, and cut off pieces of this great clay sausage as large as they can conveniently carry. These pieces are taken on their shoulders to the room where the potter is waiting their arrival, and there the clay, whose preparation stages are now completed, is made up into the various shapes with which we are so familiar.



SLIP-HOUSE—THE PRESS.





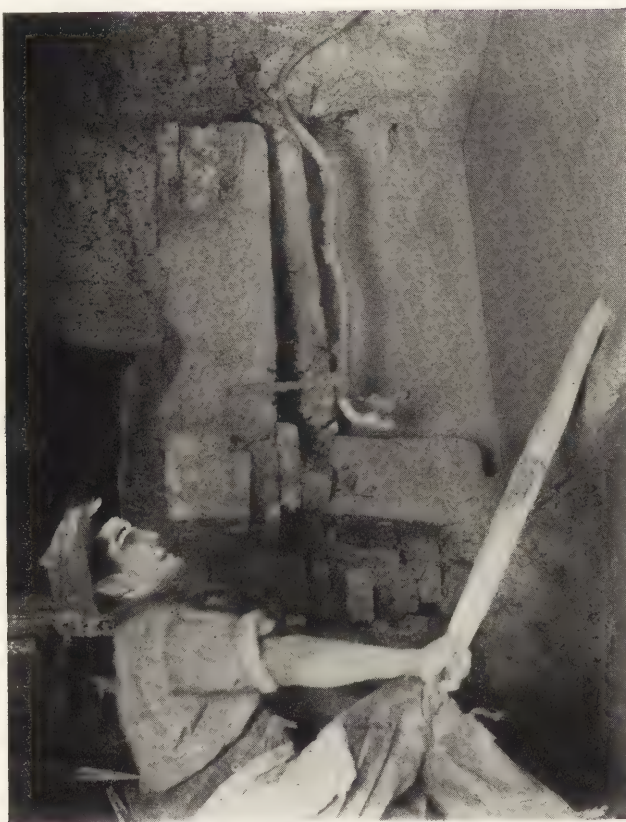
THE "PUG."





CLAY CARRIERS.





BLUNGING—old-fashioned method.



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Before we pass away from the Sliphouse to study the Potters at their work, it may be interesting to compare the older forms of Blunging, Pressing, and Puging, or their ancestral equivalents, with the more modern usage. These old methods are still in vogue in certain places and under special conditions.

Blunging, as we have seen, under the modern system is done by a machine. Under the old system the Blunger was a man. The water and clay in this case are placed together in a tank, called a "Pot." The mixing or blunging is done with a long wooden paddle, with which the man keeps stirring up the clay until water and clay are all mixed together.

The old method too, of separating the water from the clay, was entirely different in principle from the modern one. In the case of the latter the water is separated from the clay by **pressure**; in the former the same result was brought about by **evaporation**.

The Slip, after being mixed in old-fashioned Arks, was pumped into a long shallow tank or open kiln, about 8 or 10 inches deep. Under this tank were placed fires. Those fires were kept going from 10 to 30 hours, until all the water had been steamed off and only the clay left. It is very unpleasant to be in the room when this steaming process is going on. When this process was completed the clay was taken out and piled up in the Sliphouse; it was then beaten and turned about to give it the proper nature. This being done, it was ready to be taken to the

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potter. His assistant comes and takes it away to the potters' shop as required. It is then "**Wedged.**" This "wedging" is the equivalent of the modern Pugging and is practised for the purpose of getting rid of the air.

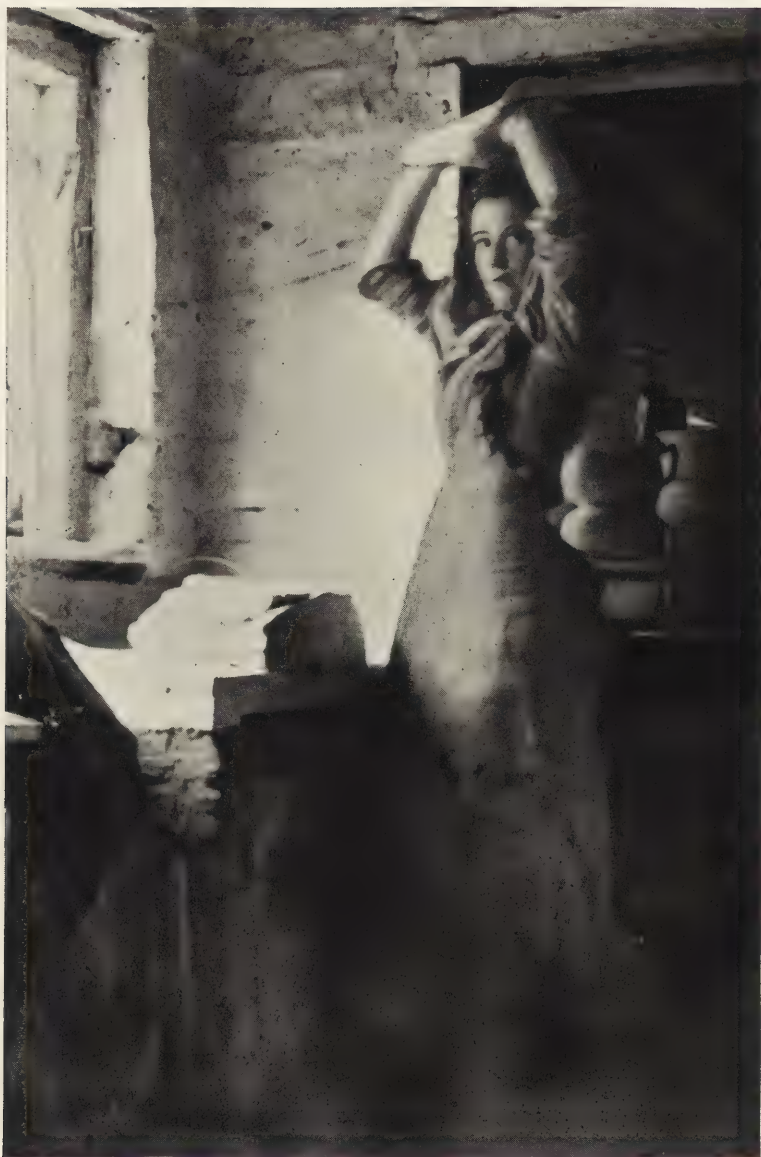
The way it is done is peculiar. The assistant, having taken the lump of clay to the potter's shop, lays it on the bench, cuts a large piece off with a wire, takes it in both hands, holds it over his (or her) head, and then throws it down on the lump left on the bench with all his strength. This process is repeated time after time until the clay is fit for use; this will take from 10 to 15 minutes.

Division II.

The Shaping of the Plastic Clay by the Potter.

LET us turn our attention now to the actual Shaping of the clay in its plastic state. There are a number of ways (according to the article to be made) in which this shaping is done. It will be well to take a glance at them before going further.

The clay may be shaped by the use of a machine known as the **Jigger or Jolly**. This machine consists of four parts:—



WEDGING THE CLAY.





HOLLOWWARE JIGGERER—old fashion.





JIGGERING.



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1. **The Jigger-head**—a revolving disc on which the mould is placed for shaping the clay.
2. **The Wheel**—turned by hand or steam and used for setting and keeping the jigger-head in motion.
3. **The Monkey**—an iron tool hinged into a fixed stand, used by the potter for regulating, and to some extent shaping the clay which lies within or upon the mould.
4. **The Monkey's Tail**—a weight at the other end of the monkey (as we should expect from its name) which brings the monkey back to its original position as soon as the handle is loosed by the potter.

The whole system of work with a Jigger usually goes by the name of **Jollying**, being a modernised method of the old Jiggering.

The clay may also be formed by means of **Pressing**, as it is called. The potters who chiefly use this method are known as **Hollow-ware-Pressers**: the clay in this case is usually inside the mould. Or again, the clay may be thrown on the **Potter's Wheel**; or it may be shaped by a system known as **Casting**; or it may be made by the use of moulds, **upon** which, instead of **in** which, the clay is formed. A Jigger is used for this work, which is carried on by the **Flat pressers**, *i.e.*, plate makers, saucer makers, etc.

Now it is time to turn to the potters' shops, as

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they are called, and see how the work is carried on by the men who shape the clay.

It must be borne in mind that the manufacture of Earthenware is highly specialised. Each man has his own special work to do. Those who prepare the clay never interfere with the shaping of it; those who shape it never interfere with the baking of it; those who bake it never interfere with the decoration of it; those who decorate it never interfere with the glazing of it; those who glaze it never interfere with the packing of it.

But more than this, the man whose work it is to make saucers never makes cups; the man who makes cups never puts the handles on; the man whose business it is to make plates never makes teapots; and the man who makes teapots never (with the one exception of the "Pressers") puts the spouts or handles on. The man who makes dishes would not dream of making basins, and the basin maker would never put his hand to the making of jugs.

The Hollow-ware-Presser.

Of all these various workers we will turn our attention first to the **Hollow-ware-Pressers**. These men work usually on large ware, such as Ewers, etc. They work with moulds on what is known as a **Whirler**—a disc of Paris plaster fixed on a spindle,



HOLLOWWARE PRESSERS.



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which they keep turning with the left hand as they work with the right.

These moulds, like all the moulds in which the clay is shaped, are divided into two pieces, each of which has a sunk pattern of half the jug or ewer which is to be made. The soft clay is pressed into each of these sides. The two sides are then brought together and fastened in the centre with a strap to keep them firmly in position. The mould thus prepared is put upright on the whirler, which is set in motion with one hand while the other hand is put into the mouth of the article that is being shaped, and pressed hard upon the clay to secure the right thickness and unite the two sides. The inside is then smoothed by the use of a **cow's lip**, prepared for the purpose, or a piece of flannel known as a **Diddler**, or some similar method. When the neck of the vessel which is being made is too narrow to admit the hand, the workman uses what is known as a **Tommy Stick**—a short stick with a piece of flannel at the end, which does the work the hand is unable to do.

As soon as this process has been completed the potter takes away the mould to the drying room and commences on another. These men, unlike the other potters, have, as a rule, no assistants. The ware being so large they are not able to make the articles fast enough to justify the employment of others to help them, so they do all the work themselves.

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Flat Pressing or Plate Making.

This process is very different from that we have just been considering. The Hollow-ware-presser has no machine to help him in his work, for the Whirler cannot be dignified by that name. The **Flat Presser** or Plate maker works with a Jigger. The Hollow-ware-presser works with an **inside** mould, the Flat-presser with an **outside** mould. The Hollow-ware-presser has no assistants, the Flat-presser has several. No one would be particularly struck with the pace of the work in the Pressers' shop, but the most striking feature in the Flat-pressers' shop is the tremendous pace at which the men work, and the enormous amount of plates they are able to turn out.

A good Flat-presser can make a hundred dozen plates in the day, that is to say, that in a day or two over the month, if he keeps this pace up, he can turn out enough plates, laid flat one upon the other, to reach from the bottom to the top of the Eiffel Tower, and the Eiffel Tower is 984-ft. high!

The Flat-presser has several attendants, sometimes he has a woman to "bat" out the clay, *i.e.*, to take a lump of clay of the right size for the plate that is being made and flatten it out in a circular shape ready to be placed by the Potter on to the mould.

Generally, the Flat-presser has an automatic batting machine. This machine is very like a miniature Jigger. There is a round circular head or disc on



FLAT PRESSERS' SHOP.



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which is put the ball of clay; there is a lever in the bench in front of the workman, which he presses with his knee, and so sets the machine in motion. A small iron tool (a miniature monkey) comes down on the clay and automatically flattens it out, much as a cook prepares her dough for the pie crust. The Bat of clay thus prepared is taken up by the workman and flung down with unerring aim upon the mould.

The mould on which the clay is thus flung is placed on a revolving disc, kept going usually by machinery: above this is the Jigger which has already been described. The clay is shaped by the Potter bringing down the iron hand of the Jigger on to the clay as it lies on the mould, having first smoothed with his fingers or a piece of flannel.

As soon as this is done (and the process is carried on with lightning speed) a girl or boy, known as a **Mould runner**, hurries off with the mould and places it on one of the shelves of a revolving cupboard known as the **Dobby**, to be dried. The heat for drying is supplied by steam pipes: originally it was supplied by a stove, known as the **Soldier**, on account of its red-hot appearance.

Casting.

Having considered the methods of the Hollow-ware-presser—a term usually shortened to Presser—and of

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the Flat-presser, we turn now to an entirely different method known as **Casting**. This method is pretty well restricted to the finer and more delicate work. It is unlike all the other methods of earthenware manufacture, inasmuch as it is concerned not with the solid clay but the Slip. The Slip, (*i.e.*, fluid clay) is poured into a mould, impressed with the pattern to be transferred to the article about to be made. The mould is made of Plaster of Paris, in two parts, and is very porous. It immediately begins to absorb the water, leaving in a minute or two a very thin layer of clay on the inside wall of the mould. When the "Caster" considers this layer of clay has reached the thickness required he pours off the slip, and when the clay shape in the mould is sufficiently dry, he unstraps his mould and takes out the contents, cup or vase or whatever it may be. Very beautiful work is produced in this way. No special skill is required by the workman, but the judgment necessary can only be acquired by practice.

Casting has to do almost entirely with ornamental ware, and therefore will not appeal so strongly to the majority of the users of Earthenware as the manufactures turned out by the Hollow-ware-pressers and Plate makers, or those we are about to consider, **Cups and Saucers**.

Cups and Saucers are naturally linked together, as we are not accustomed to use them apart. One without the other has little meaning and no legitimate place among our household utensils.



CASTING.





CUP MAKER AND ASSISTANT.





CUP MAKER'S SHOP.



CUP AND SAUCER LAND.

At the same time we must understand that the methods by which they are produced have nothing in common, except the clay—and the final steps common to all ware, of fire, decoration (if needed) and glaze.

Cups may be made in three different ways. They may be Thrown, or Cast, or Jolleyed. The last is the usual method. A **Single** or **Double Jolly** may be used. The **Cup maker** in this case will have several attendants who will keep him supplied with clay, and moulds, and carry away the moulds as rapidly as the cups are made, and in the case, at all events, of the man who works on the double jolly, two women will be needed to **sponge** the ware, *i.e.*, smooth it when semi-dry.

A single Jolly is worked in much the same way as the jolly used by the Flat-presser, the business end of the jolly being different to suit the hollow mould in which the cup is formed. The double Jolly is like a great pair of scales. It works by machinery. The cups are made in two moulds, one on the right hand, the other on the left; usually a ball of clay is put in each by one of the attendants. An automatic iron hand connected with the Jigger comes down alternately on each revolving mould, regulating the thickness of the clay and shaping the cup. The potter has to work at a tremendous pace, as the machine only just gives him time to complete one cup before he has to turn his attention to the other.

A good worker on a double Jolly can turn out a hundred dozen cups in the day. Not much, one might

CUP AND SAUCER LAND.

say, considering a plate maker can turn out the same number of plates. But here we need to understand the Potter's Arithmetic. Any ordinary person would take it for granted that a dozen means 12, but this is quite contrary to the whole principle of a potter's count.

The Potter's Arithmetic is arranged to simplify the payments of the oven men, or to simplify the calculations with regard to the number of articles placed in the oven.

Every kind of plate is calculated at 12 to the dozen ; baking dishes and meat dishes are 12 to the dozen ; all Hollow-ware pressers' work is counted 12 to the dozen. But cups and saucers are 36 to the dozen ; other small ware 18, 24, 36, even as far as 72.

The chief "counts," as they are called, are the "Oven" count and the Printer's count, but there are others, and all different to each other. The whole system of Potter's Arithmetic is antiquated and absurd, an anomaly and a nuisance, and altogether unreasonable, but no steps have yet been taken to abolish or supersede it.

In all of these processes when the clay has been shaped and dried, it has to be "Fettled" or smoothed. This is done in one of two ways. It may be either **Sponged** or **Towed**. **Sponging** is the older and safer way as no dust is, of course, given off from the moistened clay. **Towing** is the more modern, and—until the introduction of fans to draw away the dust from the worker—a decidedly dangerous process. In either



BOWL MAKERS' SHOP.



BASIN MAKING.





DISH MAKER.



DISH MAKER'S "SPONGER."





TOWING.



CUP AND SAUCER LAND.

case the ware is placed on a revolving disc, and Sponged or Towed as it whirls rapidly round. In the case of Towing the unevennesses are removed from the ware by the application of sand-cloths.

We can no more separate cups from handles than we can imagine them apart from saucers. How are the Handles made must be our next question.

Of course not by the Cup-maker, nor are they made, strange to say, by the "Handlers."

Handles, of all kinds and sizes, are made chiefly by boys, and **put on** by men or women, who are known as "**Handlers**."

The way in which they are made is rather peculiar. It has the advantage of being simple, speedy and effective. The boy is provided with a number of moulds. He fills the impression on each half of the mould with clay. He then puts the two parts together, lays the mould on the bench in front of him, jumps upon it, waistcoat downwards, with all his weight, and lo! the handle is formed. About 1,200 handles can be made by a boy in a day. There are three good solid reasons why this work should be done by boys and not by men. First of all it comes much cheaper. Secondly, men couldn't do it; and thirdly, if they could they wouldn't, the method being undignified in the extreme. The handles thus made are taken to the Handlers, who put them on as required. This is skilled labour.

Saucer making is a simple process carried on in the same way as plate making, so need not be further described.

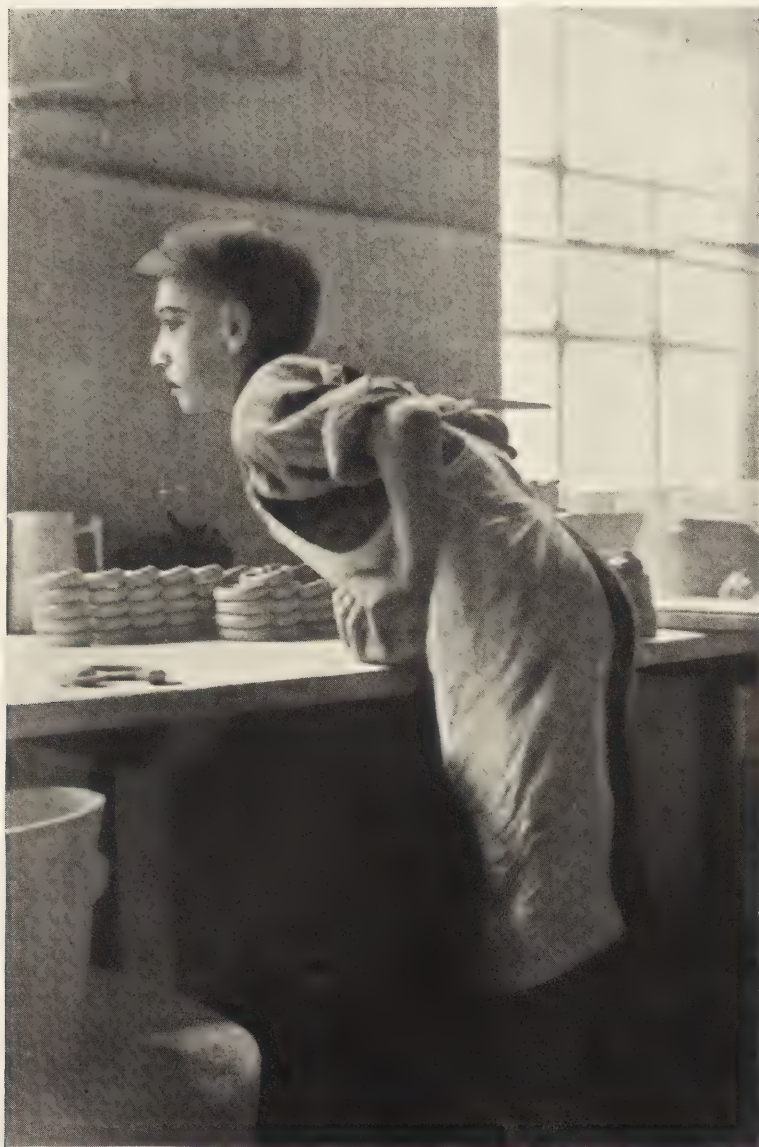
CUP AND SAUCER LAND.

In all these processes there is a large amount of superfluous clay left lying about. This is collected and taken to the Ship-house by the, "**Scrap-carriers**," to be blunged up again for future use.

The Thrower.

Throwing is universally acknowledged to be the most interesting, as it is the oldest, of all the processes of potting. The Thrower sits in front of a revolving disc known as the **Potter's Wheel**, which is kept going by means of a large wheel with which it is connected. This wheel is usually turned by a woman. This method is more convenient than any mechanical one, as the thrower constantly requires alterations in the pace at which his wheel is turned, to suit the peculiarities of the article he is "throwing," and handwork is more suitable for this than machine work.

Another woman will supply the thrower with clay in the shape of a ball, which she has carefully weighed on scales provided for the purpose, that the Thrower may have the exact amount of clay he requires for the article he is making, and that there may be no waste. As the Thrower in most cases will be making hundreds of the same article, he will require the same sized balls probably for the whole day, or even longer. The woman who turns the wheel is known as a **Wheel Turner**. The woman who weighs out the clay is known as a **Baller**.



HANDLE MAKER.





THE HANDLER.





SCRAP CARRIERS.





THROWER AND ASSISTANTS.





THE THROWER.



CUP AND SAUCER LAND.

The Thrower having "thrown" the clay on the wheel presses it firmly with his left hand, while he shapes it with his right as the wheel spins round. Eye and hand work together like magic, and the shape, whatever it may be, a simple teapot or an elegant vase, springs into existence in a moment. A quick worker can turn out 300 or 400 half-pint jugs in an hour. The writer has timed a thrower making twelve teapots (without, of course, spouts and handles) in two minutes. It is almost uncanny to see a good thrower at work—it is certainly most fascinating and most mysterious.

As each piece is shaped, the Thrower slips a wire underneath it to separate it from the wheel on which he is working, and his assistant takes it up and places it on a long board. When the board is full, another assistant, a man known as the "**Looker-to-the-Ware,**" takes it away and places it in the Drying-room near at hand. This man's business is to see that the clay articles are properly dried before being handed over to the Turners, whose work now demands our attention.

The Turner.

The articles made on the Thrower's wheel, beautiful as they look, need, after they come from the drying room, to be overhauled, irregularities corrected and the surface smoothed. This is done by the **Turner**, on his lathe; the work being similar to that of a wood turner.

CUP AND SAUCER LAND.

The Turner is to the Thrower, only in a higher degree, what the Sponger and Tower are to the potter.

It must be understood, however, that the Turner's work needs as much skill as any branch of the trade. The lathe on which the turner works, has two ends, one is known as the **Chum** and the other as the **Chock**. On the Chum the larger articles such as teapots, etc., are fixed; on the Chock the smaller ones, such as teapot lids, etc. The lathe is usually turned by machinery, and as it revolves the turner with unerring accuracy pares the clay with his various tools, sending a cataract of clay shavings flying out behind him.

An old method of turning the lathe—still in vogue—is by means of a spring board fixed on the ground and connected with the lathe. A woman stands on this board and keeps it in motion by a constant upward and downward movement of the body, which sets and keeps the lathe in motion. This woman is known as a "**lathe-treader**."

Before leaving this division of the subject, a word should be said with regard to the **Mould-makers**, whose work is so necessary, as without it the Potters generally would be helpless.

The moulds are made from Plaster of Paris. The original model is made by the artist or modeller. The model is covered with the plaster in a fluid condition. This, on hardening, takes the impression of the original pattern, from which any number of moulds



TURNER AND LATHE.





MOULD MAKERS.





THE "SHERDRUCK."



CUP AND SAUCER LAND.

may afterwards be provided. In this process the original model is of necessity destroyed.

* * * * *

This concludes our brief summary of the principal methods employed by the potters in the shaping of the ware.

In the vast amount of ware made in any particular district there will, of course, be a very large margin of waste. Any mistakes in any of the numerous processes through which the ware has to pass will, or may, lead to its rejection.

And as the Saggars (in which the ware is placed for firing) can only be used as a rule a few times, thousands will be used up in a week. What becomes of all this refuse? Very little of it can be used up again, so that nearly all of it finds its way to the various **Sherd-rucks**. These **Sherd-rucks** are vast heaps of broken clay utensils of various kinds, rising sometimes a couple of hundred feet from the level, changing the character of whole neighbourhoods, and becoming foundations for row after row of new houses built for the accommodation of those who, ever so innocently, have helped to lay the foundations of the very houses in which they live.

CUP AND SAUCER LAND.

Division III.

Baking of the Ware in the Biscuit Oven.

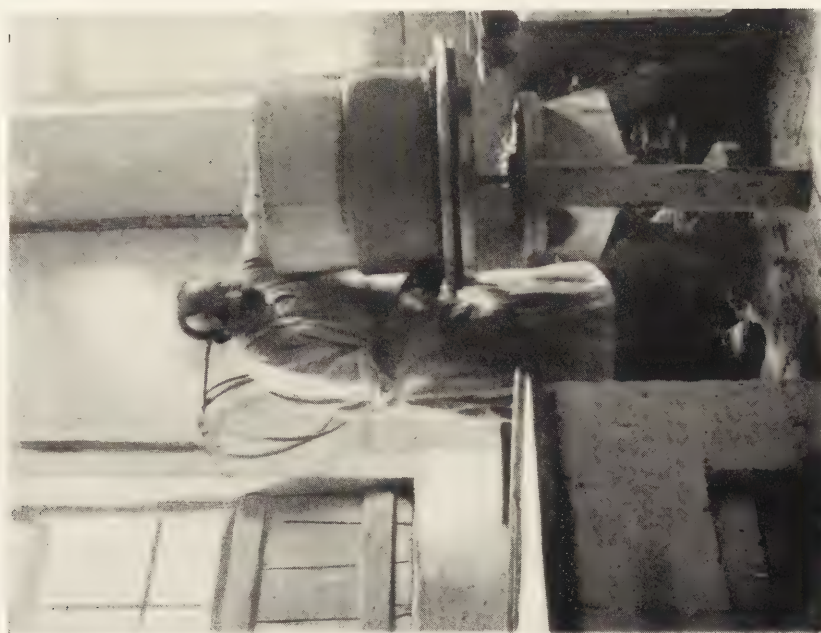
WE have now reached the third great process in the manufacture of Earthenware—the baking of the ware in the **Biscuit oven**. **Biscuit** is a technical term used for the ware after it has passed through its first firing. It is evident that before the ware can be baked, some kind of receptacle must be provided in which it can be placed. These receptacles are known as **Saggers** and are made of coarse local clay in various shapes, mostly round or oval, and for the ordinary kind of ware the average size will be from 18 to 24 inches across, and from 9 to 12 inches deep, but there is great variety in the sizes. All ware made in the manufactory finds its way to the ovens—the immense amount of work they have to do will be understood when we realise that one small manufactory (in which some of the photographs in this book were taken) employing 300 hands, turns out weekly from 8,000 to 12,000 dozen pieces of ware.

The **Sagger-maker** is the man who turns these saggers out ready for use—it can't truly be said that he "makes" them. In reality he makes nothing, but he cleverly and deftly joins together the wall and the bottom of which the sagger consists, for it has no top.

He has two assistants. The one who makes the bottoms is known as the **Bottom-knocker**, and the one



THE BOTTOM KNOCKER.



A SAGGER MAKER.



CUP AND SAUCER LAND.

who makes the sides is known as the **Frame-filler**. Somewhere in the room where these men work is a great mass of coarse clay, from which they draw their supplies.

The **Bottom-knocker** stands in front of his bench or slab, and is provided with a number of rings of iron just the size and shape required for the sagger bottom. The clay is placed inside this band and battled out to the right size and thickness. It is then taken to the Sagger-maker.

This man stands before a tall three-legged kind of stool, through the centre of which runs a strong spindle, and on the top of the spindle is fixed a large board or **Sherd**, on this again is placed a wooden **Drum** the shape of the sagger to be made.

When the Bottom-knocker brings his sagger-bottom to the Sagger-maker, the latter places it on the board. The drum of the sagger is put in the centre of this, with the side piece or wall of the sagger, which the Frame-filler has supplied, wrapped round it. The bottom and sides are then worked together by the Sagger-maker, and the completed sagger is then taken away to the drying-room. The heat here is very great. The men have often to work in it for ten or fifteen minutes at a time, arranging and turning the saggings, at a temperature often of over 120 degrees.

Saggings before being fired are known as "green," or, locally, "grane 'uns." When the saggings are ready for use they are taken to the sagger house and piled up in columns—known as **Bungs**—ready for use.

CUP AND SAUCER LAND.

Should they be required for the glost-oven they are painted inside with fluid glaze to prevent the ware sticking to the bottom or sides. The saggars of course must be fired before being ready for general use. These "green" saggars are placed on the top of the bungs.

Having examined the mysteries of Sagger-making we must now get some idea of the work of the men who use the saggars.

The saggars are used by both **Biscuit-placers** and **Glost-placers**.

The Biscuit-placers demand our attention first. These men have to—

1. "**Place**" or pack the green (unbaked) ware in the saggars. The ware is packed in sand.
2. "**Place**" the saggars when filled in the oven in Bungs.
3. "**Draw**," *i.e.*, take down the saggars when the firing is completed. This drawing of the oven is an uncommonly hot job.

The number of Bungs to be fired in an oven will of course vary according to the size of the oven, but the average will be from 70 to 100, with from eighteen to twenty-five saggars in a bung, that means in the biscuit oven between 2,000 and 3,000 saggars.

There will be probably about nine or ten fires round the wall of the oven, in what are known as the **Fire mouths**. The short chimneys inside the oven, leading from each fire mouth, are known as the **Bags**. The spaces between the bags are known as the **Arches**,



SAGGER MAKER AND ASSISTANTS—off to the Sagger House.





BISCUIT SAGGER HOUSE.





BISCUIT PLACERS.





GLOST OVEN, with Clammings (part of wall) pulled down
for cooling purposes.



CUP AND SAUCER LAND.

and the Bungs placed between them are known as the **Arch-bungs**. This is the hottest place in the oven.

The circle next to the Fire mouths and Bags (for the bungs are arranged in gradually diminishing circles, the oven having a circular base) is also very hot and only certain kinds of ware can be placed here. This ware is known as **First-ring ware**. Each kind of ware is placed in the circle best suited to it as regards heat. When the oven is full it is closed up and "fired" for about 60 hours. It is then slowly cooled by taking down gradually that part of the wall known as the **Clammings**. In placing the saggars a ladder is used—known as the **Horse**.

Ware over-fired is known as **Pinched**. Pinched ware is smaller than that properly fired, gives a higher note if struck, and if painted a less distinct pattern. If pinched in the glost-oven only, the ware is crooked and takes a higher gloss. All ware contracts in the process of firing.

After the Biscuit oven has been "drawn" the saggars are emptied and the ware taken to the **Warehouse**, where it is brushed and overhauled. From the biscuit warehouse it is passed on to the **Dipper**. As we come to the Dipping house we are faced for the first time with the burning question of **Plumbism**, or **Lead poisoning**. It is impossible to enter into this deeply important subject at any length in a short treatise like this, but something must be said about it.

The Potter's great enemy is **dust**, which takes two forms. The ordinary clay-dust or flint-dust, which taken

CUP AND SAUCER LAND.

into the lungs causes the terrible disease called "Potter's asthma"—locally known as "Potter's rot"—or dust mixed with particles of lead, which, taken into the system in various ways, causes lead poisoning with all its attendant evils.

By means of improved ventilation, fans and other methods, the evils of dust have been much reduced. The evil effects of lead poisoning have also been much lessened by stricter rules, the introduction of washing conveniences, a monthly medical examination of all who come in contact with lead: and by "fritting" the lead instead of using it raw.

This dangerous ingredient is only used in connection with the glaze. Could the glaze be made without lead, the danger would cease. It has been said that this is not only possible, but that it ought to be made compulsory. Leadless glazes undoubtedly can be used, but to pass a law to compel the use of leadless glaze would mean, at present at all events, complete ruin to the potting trade of this country.

Every manufactory has its own peculiar body, *i.e.*, clay mixture for the making of the ware. It is imperative that the glaze, used for that ware, should be in complete harmony with that body, *i.e.*, should expand and contract with the ware, otherwise the glaze would craze, *i.e.*, crack. Eliminate the lead from the glaze, and the whole process would have to be re-organised.

Supposing this were possible, there are other draw-



BISCUIT WAREHOUSE.



CUP AND SAUCER LAND.

backs which seem at present to render the general use of leadless glaze impossible. It does not "fuse" or "flow" like lead glaze. Marks or irregularities in the "dipped" or "glazed" ware, which would disappear under the influence of lead glaze, would not be affected to any great extent by the leadless glaze. In short, while we all most earnestly desire that means may be devised to do away entirely with the evils of lead poisoning, it seems certain that we could not compete with foreigners if they were allowed to use lead glaze while we were forbidden it, for there can be no question of the superior finish of articles treated with lead glaze. But this does not mean that our potters are to continue to be exposed to the horrors of lead poisoning. By strict regulations loyally carried out by masters and workpeople alike, by personal cleanliness and sobriety, and by ceasing to use raw lead in the glaze, the numbers of cases of "Plumbism" have been immensely reduced already, and will, we believe, continue to decrease.

Division IV.

The Coating of the Ware with Fluid Glaze. Fritting the Lead.

WE have been speaking of the danger of lead poisoning; let us look at one of the most important methods devised to lessen that danger.

Glaze consists of a mixture of Borax, Flint, Whiten-
ing, Stone, China clay and Lead oxide. The lead oxide

CUP AND SAUCER LAND.

needed has usually been mixed with these ingredients in a raw condition. Experiments have shown that if the raw lead—lead oxide or carbonate of lead (*i.e.* red lead or white lead)—were changed into a silicate (a glass-like substance) by fusion with silica, felspar, etc., it would become much less injurious to the human system—or in scientific language, much more **insoluble** (*i.e.* by the acids of the digestive fluid). It is therefore becoming very general to treat the lead in this way.

Two “frits” are made; one consisting of the ingredients above mentioned, the other of lead oxide, silica, felspar, etc. Each of these is fused by heat in a kiln. The contents of the kiln are then emptied into a shallow well and left to cool. When cooled the lead “frit” has the appearance of solid glass of a delicate yellow tint. It is then broken up, ground in the mill, and the two “frits” are mixed together, water is added, and the glaze is ready to be used.

The Dipper.

We must now pass on to the **Dipping House**. The dipper stands before a large tub. This tub is divided into two parts and is filled with fluid glaze, thick on one side, thin on the other (reminding one very much of cream and milk) to suit the over-fired or the under-fired ware; thin for the one, thick for the other. The “easier” the ware is fired the more glaze it will absorb.

The Dipper has several assistants. One—a woman probably—will fetch the ware which has been brought



FRTTNG THE LEAD



FRTTNG THE LEAD.





DIPPER AND ASSISTANTS.





THE GLAZE CART—taking Fluid Glaze to manufactories which do not make their own.



DIPPER'S ASSISTANTS.



CUP AND SAUCER LAND.

from the Biscuit Warehouse, and place it on a board within easy reach of the Dipper. Another—perhaps a boy—will take it away as soon as dipped to the Dippers' Drying house.

If you watch the Dipper himself, you will see that he is working quickly and systematically, almost like a machine. In dipping there are four movements:—

1. Taking up the ware.
2. Passing it through the fluid glaze.
3. Shaking off the superfluous glaze by a quick turn of the wrist.
4. Placing the dipped ware on a grid in front of the dipping tub.

An arrangement known as the "Dipper's Mangle" is sometimes used by the Dipper for drying the glazed ware. It is a kind of sliding rack, working either horizontally or vertically. It is constantly on the move, passing over hot pipes. The ware, when it reaches the end of its tether, is taken off by the **Ware cleaners** and conveyed to the room where they work.

The pace at which some dippers can work is marvellous. A good dipper in the ordinary way would dip from 30 to 40 dozen plates in an hour.

Dipping is certainly a dangerous trade, as the dipper's hands and arms are always coated with glaze. The danger, however, may be immensely reduced by personal cleanliness. The women and boys who work with the Dippers have to wear special overalls and caps.

The Ware-cleaners who see to the ware after it comes

CUP AND SAUCER LAND.

from the dipping house, are also exposed to danger from the particles of dust, containing lead, which are set in motion through the fettling of the ware, but here again ordinary care minimises the danger.

Division V.

A Second Baking in the Glost Oven for Melting the Glaze. Glost Placers.

AS soon as the ware has been "dipped," "dried," and "fettled," it is ready for the **Glost Placers**. These men do for the glazed ware exactly what the Biscuit-placers do for the Biscuit ware, *i.e.*, place it first of all in saggars for its second firing (to fuse the glaze), and then place it, or pile it up, in "bungs" in the glost oven, and when sufficiently baked, "draw" it. There are some differences, however, in their methods.

The Biscuit ware can be packed close together; not so the glazed ware, that has to be separated, or else when the glaze begins to fuse in the oven, the pieces would stick together. Each piece of ware is separated from the piece next to it by means of "**Thimbles**" "**Spurs**" or **Stilts**—small clay buffers, whose shapes are fairly represented by their name.

Besides this, the saggars have to be "placed" differently. Those containing biscuit ware can be placed without any special precautions one on the other.



DIPPERS' DRYING HOUSE.





GLOST SAGGER HOUSE.





GROUP OF GLOST PLACERS.



GIRLS FROM GLOST SORTING HOUSE—Sharpening Tools for
Fettling the Ware.



CUP AND SAUCER LAND.

Not so the saggars containing glazed ware. They must be protected from all dust, and made air-tight. If the ware were not protected from the air, the result would be detrimental to the glaze, which would be dulled by contact with the air. Such ware is known as "air-struck." To avoid this, a Wad of clay, looking just like a piece of indiarubber cord, is arranged round the rim of each sagger, so that the sagger above presses down the wad, and so protects the contents of the sagger beneath.

The men who make these wads are known as "Wad-squeezers." They have an iron box, in which they place the clay, which is pressed down by a screw handle at the top. The bottom of the box is perforated with round holes through which the clay is forced, coming out like clay ropes. These wads are also made in the "Wad-pug," as it is called.

Not nearly so much glazed ware can be placed in an oven as biscuit ware, on account of the separating of the pieces, so that more glost ovens will be required on a manufactory than biscuit ovens, supposing them all to be of the same size.

The glost oven is fired about half as long as the biscuit oven, *i.e.*, between 25 and 30 hours.

The glost placers are sometimes assisted by "Crankers"—usually young women, who build up the plates or saucers in little columns by means of thimbles, etc., in such a way that the placer can put this miniature "bung" bodily into the sagger and so save time.

CUP AND SAUCER LAND.

When the ware has got through its second baking (the first being in the biscuit oven) in the glost oven, and been "drawn," it passes into the Sorting house, where irregularities are corrected as far as possible, and the marks left by the Thimbles, Spurs, or Stilts, are obliterated or chipped off by means of small chisels, which the girls have to sharpen as occasion requires on a grindstone provided for the purpose.

Division VI.

Decoration of the Ware.

WE now pass to an entirely different branch of our subject. We have hitherto been describing what we may call the preparation stages of the ware. We have now to speak of its "**decoration.**"

There are various ways in which the ware may be decorated, but whatever special process may be employed, the decorating must be either "**on glaze**" or "**under glaze,**" *i.e.*, it must be done after the ware has left the glost oven or before it has been dipped. Let us look at some of the principal methods of decorating. The ware may be decorated **under glaze** (*i.e.*, on the ware in the biscuit stage), chiefly by Painting or Printing. If a monotint is required it may be dipped in coloured glaze, or it may be treated



PAINTRESSES AND LITHOGRAPHERS.



CUP AND SAUCER LAND.

by the Glaze-blower, but this latter method is uncommon.

Or again, the ware may be decorated **on** the glaze by Painting, Lithography, Printing, Ground-laying, Colour dusting, Aerographing, etc., all with enamel colours.

Of all these methods, **Printing** under glaze is the most important, and needs some explanation.

Printing may be done by hand or by machinery; but the work done by machinery is decidedly inferior to that done by hand. In the case of a machine copper cylinders are used. The machine itself looks very like a mangling machine. The top roller has the pattern engraved on it. Rolls of thin paper, three or four miles in length, are ranged round the room and used as required. This paper is passed through the cylinders after the top one has been covered with the colour desired. In some cases the stream of paper passes through the floor, being protected by a kind of trough. A girl is waiting in the room underneath, and cuts off strips of paper, from which each individual pattern (usually circular, and repeated throughout the roll) is again cut and handed to the Transferrer, of whom more directly.

Let us now look at the older and more satisfactory method of printing, *i.e.*, by hand. Each Printer has three female assistants:

1. The Transferrer.
2. The Apprentice.
3. The Cutter-out.

CUP AND SAUCER LAND.

The Printer himself has a copper plate engraved with the pattern required. He lays his colour (always a monotint) on a metal slab heated by a stove underneath. He then rubs the colour into the copper plate with a pad, taking off the superfluous colour with a palette knife. He next lays a well-wetted piece of tissue paper on the plate. The copper plate and paper are then passed under a heavy roller covered with thick flannel. This fixes the pattern on the paper.

As each paper is ready it is taken away by the **Cutter-out**, a young girl, who cuts the pattern out and hands it to the Transferrer, who places it on the ware as required. This is skilled work. The apprentice then rubs the colour off the pattern into the ware with a padded stump. The ware is then taken to a tub of "aired" water, where the paper is washed off, leaving the pattern impressed upon the ware.

Colour-dusting and **Ground-laying** are unhealthy occupations on account of the lead which is mixed with the colours. In both processes, which are very similar, the parts to be coloured are oiled with a brush and then "dabbled" to a uniform consistency with a "boss" of cotton-wool covered with silk muslin. The colour only sticks on the part that has been oiled and bossed. **Colour-dusting** is pretty well restricted to band and line patterns.

Aerographing is a different method, producing much the same results as ground-laying, and rapidly taking its place. The Aerographer holds a short tube in his



THE PRINTERS' SHOP.





PRINTING MACHINE.





COLOUR DUSTING.



AEROGRAPHERS.



CUP AND SAUCER LAND.

hand with a kind of bulb attached which is filled with the colour he requires. The bulb is connected with an air pump. A tap is turned and the air rushes through the tube, sending out the enamel colour in a fine spray, which is directed on to the piece of ware which has to be decorated.

All these processes are carried out **on** the glaze, and only enamel colours are used.

Division VII.

A third Baking for the fixing of the colours. The Kilns.

WE have now reached the last great division of our subject—the third firing in the Kiln for fixing the colours. The word **Kiln** is used in America for any oven; in England the term is practically restricted to the smaller ovens in which the colours are fixed after the ware has been decorated. These are known as “Muffle-Kilns.”

There are two kilns in general use:

1. The Hardening Kiln.
2. The Enamelling Kiln.

CUP AND SAUCER LAND.

Ordinary printed ware, or ware printed with other than enamel colours in the biscuit stage, goes to the **Hardening Kiln** to have the oil with which the colours are mixed burnt out before passing into the Dipper's hands.

Enamel colours, on the contrary, are always painted on the ware after it has been dipped and fired in the glost oven, and ware thus decorated is sent to the **Enamelling Kiln** to fix the colours.

We have now come to the end of our subject. We have followed the earthenware through its various stages. We have seen it in the **Slip-house**, being prepared for the Potter. We have watched it being formed under his hand into the various shapes with which we are so familiar. We have traced it to the **Biscuit oven** for its first firing. We have seen it in the **Dipper's** hands, and followed it in imagination to its second firing in the **Glost oven**. We have had our attention drawn to the various methods employed in its **decoration**, and finally, we have watched it in its last firing in the **kiln**. It only remains for us now to commit it to the many hands waiting for it in the general Warehouse, from whence, in due time, it will find its way into the Packer's hands, and having been rapidly and skilfully embedded in straw and packed in crates provided for the purpose by the **Crate makers**, it will be despatched by rail or canal to every civilised country in the world.

And so my story ends. And as I lay down my pen



KILN FIREMAN.





CRATE MAKERS.





CRATE MAKERS' SHED AND YARD.





PACKING.





SCENE ON A POTBANK—Clay Carriers' Barrow in foreground.



CUP AND SAUCER LAND.

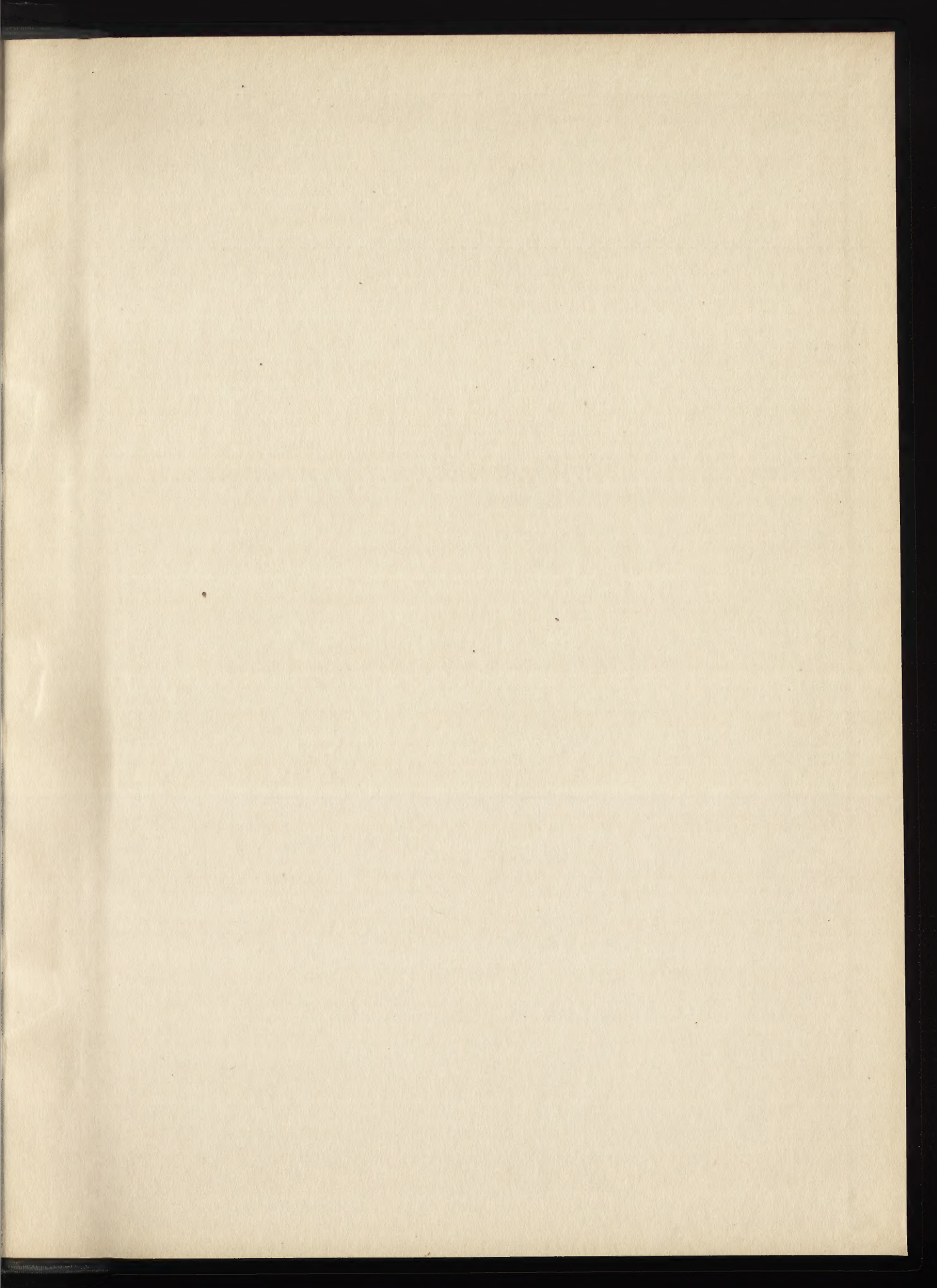
I find myself wondering whether the same thought comes to others which has so often come to me—that the whole story of earthenware production is a striking parallel of human life, from its birth—a child of earth like ourselves—to its high estate in the palaces of kings; or, in its fall, a broken and a useless thing, upon the rubbish heap, which is the inevitable bourne of every vessel, whether of clay, or flesh and blood, which has failed to fulfil the purpose for which it was sent into the world.

Glossary of Terms peculiar to the Potting Industry.

- ARK, receptacle for contents of blunger.
ARCHES, spaces between the "bags" in the oven.
AEROGRAPH, mechanical method of ground-laying.
BLUNGER, iron churns for mixing the clay.
BAT, clay flattened out.
BATTER, appliance for flattening out clay for plate maker, etc.
BALLER, woman who supplies the thrower with balls of clay.
BUNG, pile of saggars.
BAGS, short chimneys in side oven leading from each fire mouth.
BISCUIT, clay after its first baking in biscuit oven.
BOTTOM-KNOCKER, makes the bottoms of the saggars for sagger maker.
CASTING, method of shaping ware in moulds by use of slip.
CHUM, (1) large end of turner's lathe; (2) plaster block on which the clay is placed by potter.
CHOCK, (1) small end of turner's lathe; (2) plaster block used by handlers.
CLAMMINGS, entrance into oven, built up when firing, taken down to cool the ware.
COLOUR-DUSTING, a process of ground-laying.
CRANKERS, assistants to glost placers.

GLOSSARY OF TERMS—continued.

- DOBBY OR DOBBIN, revolving cupboard for drying the ware.
DIDDLER, flannel used by pressers for smoothing the ware.
DIPPER, man who puts on the glaze.
DRAW, taking ware out of oven.
DUNTED, ware cooled too suddenly, and so split.
FRIT, mixture of various ingredients fused by heat into a glass-like substance.
FRAME FILLER, makes sides of sagger for sagger maker.
FLAT PRESSER, plate maker.
GROG, crushed saggars.
GLOST, ware after second baking in glost oven.
GREEN, ware before baking.
GLAZE-BLOWING, a rare method for putting colour on to biscuit ware.
GROUND-LAYING, fixing of enamel colours on glazed ware by means of oil.
HORSE, oven ladder.
HOLLOWWARE PRESSER, man who makes hollowware of any kind.
JIGGERER, man who uses a jigger or jolly.
MOULD-RUNNER, boy or girl who carries moulds for potters.
MONKEY, business end of the jigger.
PRESS, machine for separating the water from the clay.
PUG, machine for cutting up and perfecting clay brought from press.
PLUMBISM, lead poisoning.
PINCHED, over-fired ware.
PLACER, man who puts ware in saggars, and saggars in oven.
RIBS, pieces of slate used by thrower in his work.
RINGWARE, or FIRST-RINGWARE, ware placed in oven in circle next to the bags.
SLIP, clay in its fluid state.
SOLDIER, drying stone.
SPONGING, *i.e.*, smoothing "green" ware with a wet sponge.
SAGGER, clay box in which the ware is placed for firing.
SPURS, or STILTS, clay buffers to separate the glazed ware in the saggars.
TOWING, smoothing "green" ware by means of sand-cloths, etc.
THROWING, a method, not mechanical, of shaping the clay.
THIMBLE, small clay buffers for same purpose as spurs.
TRANSFERRER, the woman who assists the printer by placing the patterns on the ware.
WAD, clay rope for going round top of saggars in glost oven.
WHIRLER, circular disc on which pressers work.
WEDGING, a method of bringing clay to its right consistency by hand.



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